



FAST RECTIFIER DIODE
DF453-800

<ul style="list-style-type: none"> ◆ $V_{RRM} = \underline{3000-4600\text{ V}}$ ◆ $I_{F(AV)} = \underline{863\text{ A}}$ ($T_C = 85^\circ\text{C}$) ◆ $I_{FSM} = \underline{16\text{ kA}}$ ($t_p = 10\text{ms}$) 		
<ul style="list-style-type: none"> ◆ Small recovered time and charge ◆ Acceptable for series and parallel connections (low dispersion Q_{rr}, V_{FM}, I_{RRM}) ◆ Press-pack design 		

MAXIMUM RATED VALUES

Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, $T_j = -60 \dots +140\text{ }^\circ\text{C}$	V_{RRM}	3000-4600	V
Non-repetitive peak reverse voltage, $T_j = -60 \dots +140\text{ }^\circ\text{C}$	V_{RSM}	3100-4700	
Repetitive peak reverse current, $T_j = 140\text{ }^\circ\text{C}$, $V_R = V_{RRM}$	I_{RRM}	100	mA
Maximum average forward current, $T_C = 85\text{ }^\circ\text{C}$, $f = 50\text{ Hz}$	$I_{F(AV)}$	863	A
RMS forward current, $T_C = 85\text{ }^\circ\text{C}$, $f = 50\text{ Hz}$	I_{FRMS}	1355	
Surge non-repetitive current, $T_j = 140\text{ }^\circ\text{C}$, $V_R = 0$, $t_p = 10\text{ ms}$	I_{FSM}	16	kA
Safety factor	I^2t	$1280 \cdot 10^3$	A^2s
Operation junction temperature range	T_j	-60 ... +140	$^\circ\text{C}$
Storage temperature range	T_{stg}	-60 ... +50	

**DF453-800**

ELECTRICAL CHARACTERISTICS					
Parameter and conditions	Symbol	Values			Units
		min	typ.	max	
Maximum peak forward voltage, $T_j = 25\text{ °C}$, $I_F = 2500\text{ A}$	V_{FM}	-	-	3,2	V
On-state threshold voltage, $T_j = 140\text{ °C}$, $I_F = 1250 - 3770\text{ A}$	V_{TO}	-	-	1,40	
On-state slope resistance, $T_j = 140\text{ °C}$, $I_F = 1250 - 3770\text{ A}$	r_T	-	-	0,84	mΩ
Reverse recovery time $T_j = 140\text{ °C}$, $I_F = 800\text{ A}$, $di_F/dt = -100\text{ A}/\mu\text{s}$, $V_R \geq 100\text{ V}$	t_{rr}	-	-	2,5	μs
THERMAL PARAMETERS					
Thermal resistance junction to case, DC per diode double side cooled anode side cooled cathode side cooled	$R_{th(j-c)}$	-	-	0,020 0,040 0,040	°C/W
Thermal resistance case to heatsink, double side cooled single side cooled	$R_{th(c-h)}$	-	-	0,005 0,010	
MECHANICAL PARAMETERS					
Weight	w	-	0,55	-	kg
Mounting force	F	22		26	kN
Maximum acceleration (at nominal mounting force)	a	-	-	100	m/s ²



DF453-800

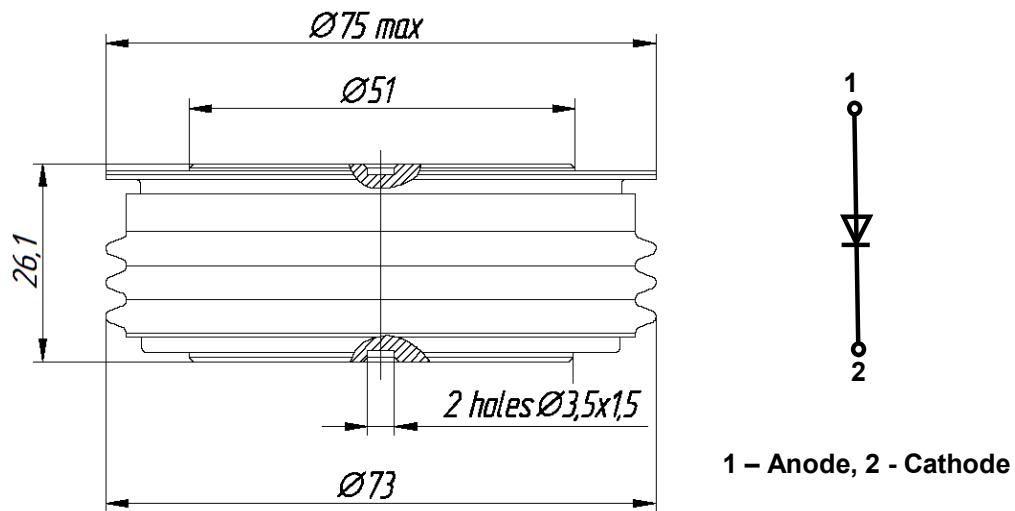


Fig. 1. Device Outline Drawing
(dimensions in mm)



126, Proletarskaya str.,
430001, Saransk, Republic Mordovia, Russia
Tel: +7(8342) 47-04-30
Tel/Fax: +7 (8342) 47-15-01
E-mail: vpruvs@elvpr.ru
Internet: www.elvpr.ru